Useful Math Links

Wolfram Alpha – A complete online computer algebra system

Desmos – A great site to create online plots of all sorts

!! Interesting !! Moebius Transformations Revealed

Already-answered questions
Maybe your question has already been answered! Check out these archives of answered questions.

• Cardano's formula for the cubic One of our most popular requests: what's the formula for the roots of a cubic equation?

• Why is m used for slope? Another popular request: why do we use the letter "m" for the slope of a straight line?

• Ask Dr. Math A very large archive and good search engine. The Dr. Math FAQs are especially good.

• Cut The Knot! This site focuses on problem-solving techniques, and includes solutions to a number of intricate problems.

• WebMath Questions and Answers Answered questions, arranged by category. Includes word problems and calculus.

Automated Answering, Online Calculators

• QuickMath An automated service that gives immediate answers to various kinds of algebraic and symbolic problems.

• WebMath Automated answers in many categories up through calculus. Includes compound interest. Interesting site because the automated answer not only gives you the answer but shows step by step how to get it.

Math Words and Definitions

• Eric Weisstein's World of Mathematics Online math encyclopedia. An excellent resource for looking up words and concepts; often goes into a great deal of detail on the math involved. Try this one first!

Math History and Biography
Math Software

- **Maple** - The *ULTIMATE* math software! (not free)
- **MathGV**  Free function graphing program for Windows.
- **Plotting Software**  Free downloadable software for differential equations, statistics, geometry (2 and 3-D), plotting, voting methods, network analysis, games, linear algebra and more!

Discovery/Inquiry-Based Learning

**In Discovery or Inquiry-Based Learning, you are lead to discover the answer for yourself.  Read more about this method here.**

- **Discovery Learning Project**  Two sites in one! The Discovery Learning Project tracks various projects that use and encourage the use of discovery methods. The Legacy of R. L. Moore site traces the influence of Robert Lee Moore (1882-1974), a famous proponent and practitioner of discovery methods of teaching.
- **Personal experiences with discovery learning methods**  Everyone who teaches by discovery or inquiry-based methods does it a little differently. This page (part of the Legacy of R. L. Moore site) contains about 30 short notes online and references to about 30 more. Teachers give their experiences using these methods and their impressions of their own teachers who used the methods.

Exercises and Drills

- **SOS Math**  Lots of good explanations, examples, and drills. Especially good on fractions and polynomials. Covers algebra, trigonometry, calculus, and several advanced math areas.
- **Math.com Algebra Worksheets**  Generates worksheets with algebra problems. (No answers though, so you'll have to check your work yourself.)
- **A+ Math**  Mostly arithmetic. Has flashcards, games, worksheets.
- **MathStories.com**  Hundreds of story problems with answers. Elementary school level.
- **Complex, Technology Based Problems in Calculus**  These problems have a higher level of complexity than traditional text book problems and foster use of a computer algebra system.
Each problem set includes discussions of related teaching issues and solutions worked in Mathematica.

University Links, etc
For true reference resources, universities often have excellent information.

- University of Tennessee Lots of great links!
- Institute for Mathematics and Its Application

For Parents and Teachers
(Also see Discovery/Inquiry Learning above)

- Math Forum A very large site with lots of good information for teachers (also useful for parents). Lesson plans. Internet resources. Problem of the week.
- Mudd Math Fun Facts A collection of over 100 fascinating math tidbits that lead into broader areas of mathematics.
- Merlot A site with links to an assortment of sites, including mathematical sites. Includes a reviewing system so you can see if other people liked the sites before you go.

Specialized Sites
Single-purpose sites and specialized references.

- On-Line Encyclopedia of Integer Sequences Search engine and database of sequences; tell it your sequence and it will attempt to identify it.
- Tablas Mathemicas de David Explicaciones y diccionario?
- SmartThinking Online paid tutoring.
- Search MAA journals via Harvey Mudd Search Site Index and abstracts for Mathematics Magazine and College Mathematics Journal.
- HyperStat Online

Fun Nerd Stuff

- Slashdot: News for Nerds, Stuff that Matters. Covers everything that's not in the mainstream. Includes obligatory black page backgrounds.

Massive Open Online Courses (MOOCs)
• Coursera

• Udacity

• EdX

MORE Math Websites!

- largest known primes
- Math Magic - challenging problems
- mathematical archives (many topics)
- mathematics subject classification
- quotes from mathematicians
- software - public domain and shareware
- teaching material for mathematics
- women mathematicians
- classroom computer activities

What can one do with a math degree?

http://math.uga.edu/~shifrin/jobops.html